IN THE CLAIMS:

Claims 1, 3, 4, 6, 7, 10, and 14-16 have been amended herein. All of the pending claims 1, 3-10, and 14-16 are presented below. All amendments are made without prejudice or disclaimer. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

Listing of the Claims:

1. (Currently amended) A genetically engineered construct comprising an ~~a gene mutated~~ equine infectious anemia virus (EIAV) genome comprising:

an open reading frame encoding an S2 gene;

two (2) ~~redundant~~ stop codons in ~~the EIAV's S2~~ said open reading frame; and

a deletion in said open reading frame,

~~wherein said virus lacks the ability to express the mutated gene's protein *in vivo* and wherein said lack of expression can be used to differentiate vaccinated from non vaccinated or infected mammals~~.

2. (Canceled).

3. (Currently amended) The genetically engineered construct of Claim 1 wherein the two stop codons are engineered into ~~the proviral DNA of $EIAV_{UK}$ at the EIAV's S2 amino acids~~ positions G^5 and G^{18} of said open reading frame encoding an S2 gene.

4. (Currently amended) The genetically engineered construct of Claim 1 wherein said 2 stop ~~codon does~~ codons do not ~~affect~~ effect normal expression of ~~the~~ an envelope protein.

5. (Previously Presented) The genetically engineered construct of Claim 1 wherein the deletion is a deletion of between 6 and 25 base pairs.

6. (Currently amended) The genetically engineered construct of Claim 5 wherein the said deletion is located at least 7 base pairs downstream of ~~the~~ a stop codon ~~of~~ in a second open reading frame, wherein said second open reading frame encodes the second exon ~~the second coding region~~ of TAT.

7. (Currently amended) The genetically engineered construct according to Claim 5 wherein said deletion does not interrupt ~~the~~ a splice donor 2 site downstream of ~~the~~ said stop codon in said second open reading frame ~~of the second coding region of TAT~~ and wherein said deletion is upstream of the initiation codon of ~~the EIAV's S2 open reading frame~~ said open reading frame encoding an S2 gene .

8. (Previously Presented) The genetically engineered construct according to Claim 5 wherein said deletion is upstream of the envelope coding region.

9. (Previously Presented) The genetically engineered construct of Claim 5 wherein the deletion is 9 base pairs.

10. (Currently amended) The genetically engineered construct of Claim 3 wherein generation of the stop codon at G^5 further comprises the insertion of a restriction endonuclease site ~~whereby the restriction endonuclease is a molecular marker for differentiating between wildtype EIAV and the gene mutated EIAV~~.

11-13 (Canceled).

14. (Currently amended) A genetically engineered construct comprising an ~~a gene mutated~~ EIAV genome comprising:

a first open reading frame encoding an S2 gene;

a second open reading frame encoding an envelope gene;

two (2) ~~redundant~~ stop codons in said first open reading frame at positions ~~wherein the two redundant stop codons are inserted into the EIAV's S2 open reading frame and engineered into the proviral DNA of $EIAV_{UK}$ at the EIAV's S2 amino acids~~ G^5 and G^{18}; and

a deletion in said first open reading frame comprising 9 base pairs and wherein said deletion is outside ~~the envelope open reading frame~~ said second open reading frame.

15. (Currently amended) A genetically engineered construct comprising an ~~a gene mutated~~ EIAV genome comprising:

a first open reading frame encoding an S2 gene;

a second open reading frame encoding an envelope gene;

two (2) ~~redundant~~ stop codons in said first open reading frame at positions ~~wherein the two redundant stop codons are inserted into the EIAV's S2 open reading frame and engineered into the proviral DNA of the EIAV's $EIAV_{UK}$ at S2 amino acids~~ G^5 and G^{18}; and

a deletion in said first open reading frame comprising between 6 and 25 base pairs and wherein said deletion is outside ~~the envelope open reading frame~~ said second open reading frame.

16. (Currently amended) The genetically engineered construct of Claim 15 wherein said ~~virus~~ genetically engineered construct lacks the ability to produce an mRNA encoding a complete S2 protein ~~express the mutated gene protein~~ *in vivo* and wherein said lack of ~~expression~~ production can be used to differentiate a vaccinated from a non-vaccinated or infected mammals.